Conceptual Models for Restoration of Lower Yuba River Anadromous Fish Populations

Wednesday July 21, 2004

Implementation Plan Overview

- Implementation Plan is a product of the Lower Yuba River Fisheries Technical Working Group
- Co-funded by:
 - CALFED
 - Yuba County Water Agency
- The purpose of the Implementation Plan is to direct the near-term implementation of prioritized lower Yuba River anadromous fish habitat restoration/enhancement actions and studies
 - Local-level
 - Multi-agency, consensus-based approach

Key Objectives of the Implementation Plan

- Produce physical and biological conceptual models for the lower Yuba River and its anadromous fish resources to facilitate identification of stressors that may limit production of anadromous fish
- Guide the evaluation, refinement, prioritization, and implementation of lower Yuba River restoration actions based on conceptual models

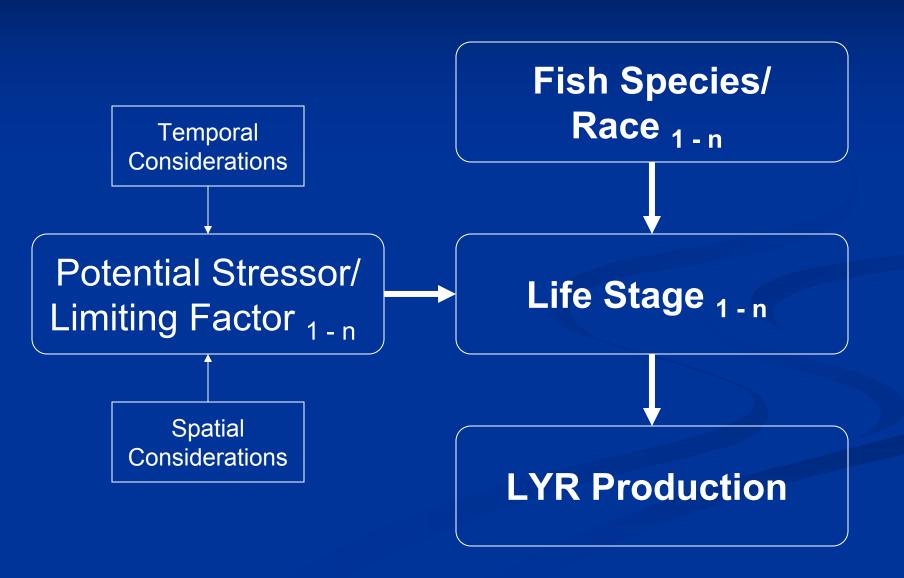
Anadromous Fish Addressed by Conceptual Models

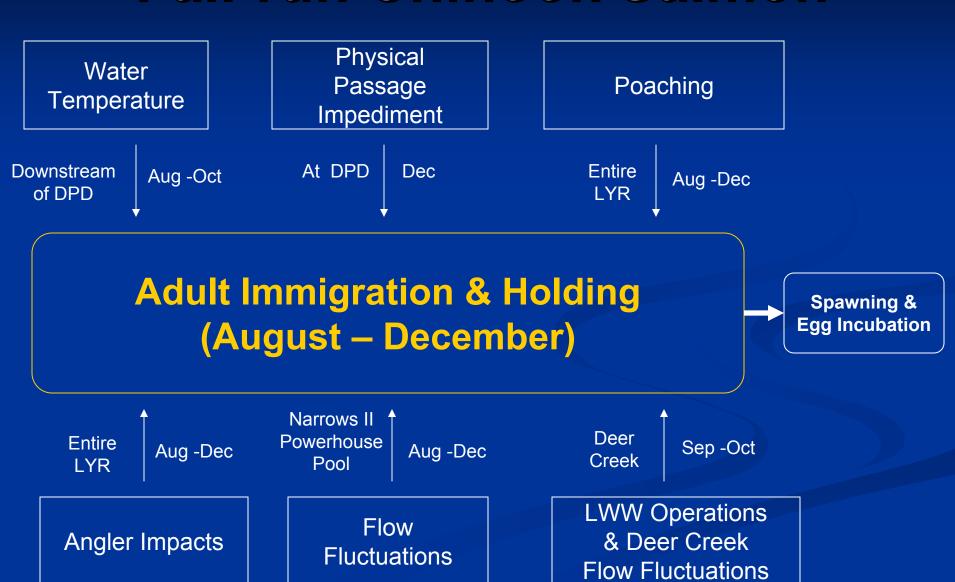
- Applies to anadromous fish species/races of primary management concern:
 - Chinook Salmon
 - Fall-run
 - Spring-run
 - Steelhead
 - Green Sturgeon
 - American Shad
 - Striped Bass

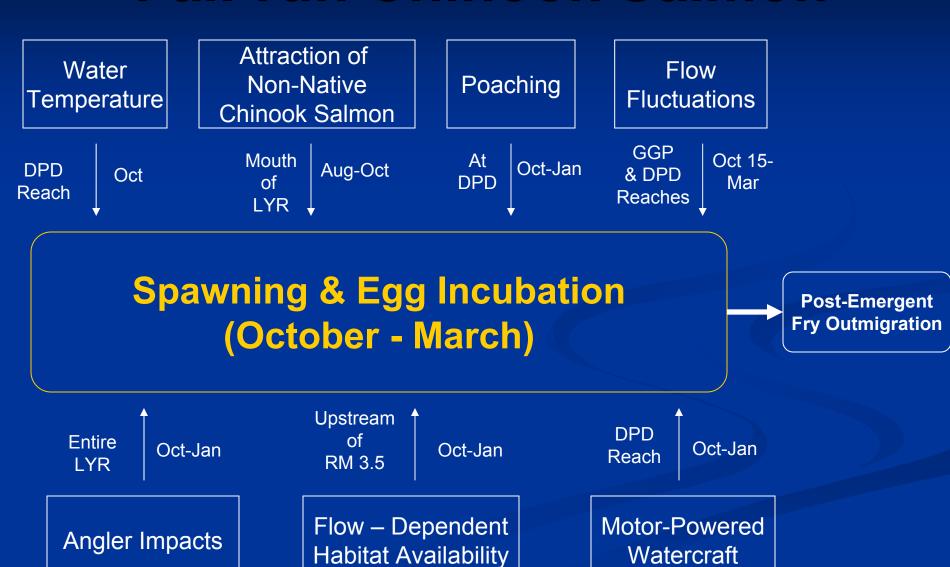
Key Points

- Applies only to the lower Yuba River from the Feather River confluence to Englebright Dam
- Actually a series of conceptual models pertaining to the primary stressors potentially affecting various life stages of individual fish species/races
 - Spatial component
 - Temporal component

Overview of Conceptual Models







Flow Fluctuations

Entire LYR
Below
Narrows

Dec 15 – Mar Physical Passage Impediment

At DPD Dec 15 – Mar

Entrainment & Diversion Impacts

Some Water Diversions Mar

Post-Emergent Fry Outmigration (December 15 – March)

Fry Rearing

Entire LYR

Dec 15 – Mar

Transport/Pulse Flow

Entire LYR

Dec 15 – Mar

Habitat
Complexity &
Diversity

Entire LYR
Especially @
Structures

Dec 15 – Mar

Predation

Flow Fluctuations

Entire LYR
Below
Narrows

Dec – Mar

Water Temperature

Below Marysville Gauge

Dec – Mar

Entrainment & Diversion Impacts

Some Water Diversions

Mar

Fry Rearing (December – March)

Juvenile Rearing

Entire LYR Below Narrows

Dec – Mar

Flow-Dependent Habitat Availability

Entire LYR
Below
Narrows

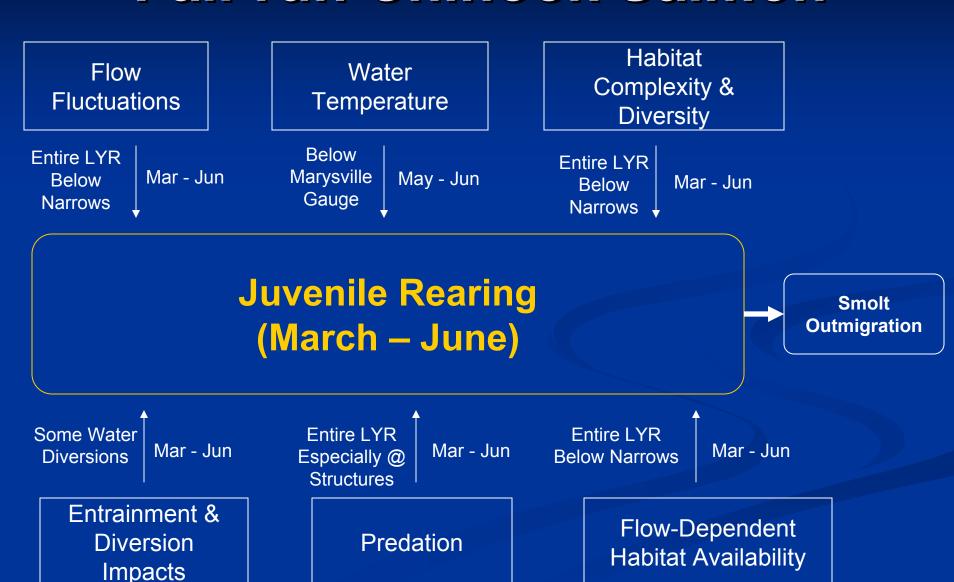
Dec – Mar

Habitat
Complexity &
Diversity

Entire LYR
Especially @
Structures

Dec – Mar

Predation



Flow Fluctuations

Entire LYR
Below
Narrows

April – Jun 15 Physical Passage Impediment

At April – DPD Jun 15 Water Temperature

Below Marysville Gauge | May 15 – Jun 15 Habitat
Complexity &
Diversity

Entire LYR
Below
Narrows
Jun 15

Smolt Outmigration (April – June 15)

Delta / Ocean Entry

Entire LYR

April – Jun 15

Transport/Pulse Flow

Some Water Diversions

April – Jun 15

Entrainment & Diversion Impacts

Entire LYR
Especially @
Structures

April – Jun 15

Predation